

***Remarks***

Reconsideration of this Application is respectfully requested.

Claims 1-5 and 7-15 are pending in the application, with claim 1 being the independent claim.

Based on the above Amendment and the following Remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Rejections under 35 U.S.C. § 103***

Claims 1-5 and 7-15 have been rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,165,802 to Cuchiaro et al. ("Cuchiaro") in view of U.S. Patent Nos. 6,174,766 to Hayashi et al. ("Hayashi"). Applicant respectfully disagrees and traverses this rejection.

In an exemplary embodiment of the invention, a coating layer comprises a first coating part 20 provided between the main wiring layer and the first electrode; a second coating part 50 provided on the top surface of the main wiring layer and a third coating part 40 covering the side faces of the main wiring layer. The coating layer is conductive and comprises a second material for preventing infiltration in the main wiring layer of the substance.

Claim 1 recites the third coating part covering side faces of said main wiring layer. The plain and ordinary meaning of the claim term "covering" means to place something upon or over, so as to protect or conceal, see the American Heritage Dictionary of the English Language, 4<sup>th</sup> Edition, Houghton Mifflin Company, 2000. Consequently, claim 1 requires that the third

coating part is placed upon or over the main wiring layer so as to protect or conceal the main wiring layer.

The three distinct coating parts recited in claim 1 advantageously prevent any reaction between substances, i.e., water or molecular hydrogen, on the surface of the main wiring layer. Because no reducing agent is provided in the main wiring layer, Applicant's invention more effectively prevents a degradation of the characteristics of a ferroelectric capacitor that is caused by the reaction.

The Examiner admits that Cuchiario fails to teach or suggest, among other things, a third coating provided on side faces of said main wiring layer, please see Sec. 4, Pg. 3 of the Office Action. Hayashi does not supplement Cuchiario to teach this claim recitation in the claimed combination of elements.

Hayashi teaches a semiconductor device and method of manufacturing the same. The second barrier film 23 does not cover side faces of wiring film 26. As shown in Fig. 9 of Hayashi, contact holes 22 extend to upper capacitor electrodes 14, col. 12, lns 41-48. A second barrier film 23 is formed in the bottom of the second contact holes 22, col. 13, lns. 19-22 and Fig. 10. A wiring film 26 is formed on top of barrier layer 23. Barrier layer 23 is provided in the bottom of contact holes 22 in order to prevent deteriorating a metallic oxide dielectric film of the capacitor. The barrier layer 23 does not cover side surfaces of the wiring layer 26, barrier layer 23 is provided on a bottom surface of wiring layer 26. As shown in Fig. 13, the side surfaces of wiring layer 26 are exposed and in contact with interlayer insulating film 27, see highlighted

portions of Exhibit B. None of the side surfaces of wiring layer 26 are covered by barrier layer 23. Barrier layer 23 is provided on the bottom surface of wiring layer 26. The fact that the bottom surface of wiring layer 26 is irregular and undulates into the contact holes does not change the fact that it is still a bottom surface and not a side surface. None of the side surfaces of wiring layer 26 are covered by barrier layer 23. Thus, there is no teaching or suggestion in Hayashi of a third coating covering side faces of said main wiring layer as recited in independent claim 1.

Claim 15 has been rejected under 35 U.S.C. 103(a) as being obvious over Cuchiaro et al. in view of Hayashi et al. and Bailey. Claim 15 depends from independent claim 1 and would be patentable for at least the reasons discussed above regarding independent claim 1.

Bailey does not supplement Cuchiaro or Hayashi to teach or suggest of a third coating covering side faces of said main wiring layer. Bailey teaches hydrogen barrier encapsulation techniques. For example, in Fig. 10B, a ferroelectric capacitor 1172 including an upper electrode 1182 is illustrated. A metal wiring layer 1192 is provided over the capacitor 1172. A hydrogen barrier material 1190 covers the ferroelectric capacitor elements, an inner surface of a contact hole, and a portion of a bottom of metal layer 1192, see Fig. 10B and col. 13, lns. 1-21. However, the hydrogen barrier material does not cover side surfaces of wiring layer 1192. The side surfaces of wiring layer 1192 are in contact with an interlayer insulating film. Thus, there is no teaching or suggestion in Bailey of a third coating covering side faces of said main wiring layer as recited in independent claim 1.

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Appl. No.: 09/893,487

Accordingly, the cited references taken alone or in combination do not teach or suggest the features recited in amended claim 1. Claims 2-5 and 7-15 are also patentable based on their dependency from claim 1. Therefore the withdrawal of this rejection is respectfully requested.

### ***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,

Date: \_\_\_\_\_

4-28-04



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[Reference](#) > [American Heritage®](#) > [Dictionary](#)

[< Coventry²](#)
[coverage >](#)

[CONTENTS](#) · [INDEX](#) · [ILLUSTRATIONS](#) · [BIBLIOGRAPHIC RECORD](#)

The American Heritage® Dictionary of the English Language: Fourth Edition. 2000.

## cover

SYLLABICATION: cov·er

PRONUNCIATION: kŭv'ər

VERB: Inflected forms: **cover·ed**, **cover·ing**, **cover·s**

TRANSITIVE VERB: 1. To place something upon or over, so as to protect or conceal. 2. To overlay or spread with something: *cover potatoes with gravy*. 3a. To put a cover or covering on. b. To wrap up; clothe. 4. To invest (oneself) with a great deal of something: *covered themselves with glory*. 5a. To spread over the surface of: *Dust covered the table. Snow covered the ground*. b. To extend over: *a farm covering more than 100 acres*. 6a. To copulate with (a female). Used especially of horses. b. To sit on in order to hatch. 7. To hide or screen from view or knowledge; conceal: *covered up his misdemeanors*. 8a. To protect or shield from harm, loss, or danger. b. To protect by insurance: *took out a new policy that will cover all our camera equipment*. c. To compensate or make up for. 9. To be sufficient to defray, meet, or offset the cost or charge of: *had enough funds to cover her check*. 10. To make provision for; take into account: *The law does not cover all crimes*. 11. To deal with; treat of: *The book covers the feminist movement*. 12. To travel or pass over; traverse: *They covered 60 miles in two days*. 13a. To have as one's territory or sphere of work. b. To be responsible for reporting the details of (an event or situation): *Two reporters covered the news story*. 14. To hold within the range and aim of a weapon, such as a firearm. 15. To protect, as from enemy attack, by occupying a strategic position. 16. *Sports* a. To guard (an opponent playing offense). b. To defend (a position or area): *cover third base; cover the backcourt*. 17. To match (an opponent's stake) in a wager. 18. To purchase (stock that one has shorted). 19. *Games* To play a higher-

ranking card than (the one previously played). **20. Music** To record a cover version of (a song). **21. Obsolete** To pardon or remit.

**INTRANSITIVE VERB:** **1.** To spread over a surface to protect or conceal something: *a paint that covers well*. **2.** To act as a substitute or replacement during someone's absence: *Her assistant covered for her*. **3.** To hide something in order to save someone from censure or punishment: *cover up for a colleague*. **4. Games** To play a higher card than the one previously played.

**NOUN:** **1.** Something that covers or is laid, placed, or spread over or upon something else, as: **a.** A lid or top. **b.** A binding or enclosure for a book or magazine. **c.** A bedcover. **d.** A protective overlay, as for a mattress or furniture. **2a.** Something that provides shelter. **b.** Strategic protection given by armed units during hostile action: *The battleship approached the combat zone under a cover of fighter planes*. **3a.** Something, such as vegetation, covering the surface of the ground. **b.** Vegetation, such as underbrush, serving as protective concealment for wild animals. **4.** A layer of clouds obscuring the sky or ground. **5a.** Something, such as darkness, that screens, conceals, or disguises. See synonyms at **shelter**. **b.** A false background and identity, especially for a spy. **6.** A table setting for one person: *Covers were laid for ten*. **7.** A cover charge. **8.** An envelope or wrapper for mail. **9.** Funds sufficient to meet an obligation or secure against loss. **10.** One who substitutes for another. **11. Music** A cover version.

**IDIOMS:** **cover (one's) ass** *Vulgar Slang* To take measures to avoid being held responsible if something goes wrong. **cover (one's) tracks** To conceal traces so as to elude pursuers. **cover (the) ground** **1.** To traverse a given distance with satisfying speed. **2.** To deal with or accomplish something in a certain manner: *The history course covered a lot of ground in six weeks*. **take cover** To seek concealment or protection, as from enemy fire. **under cover** **1.** In an enclosure for mailing. **2.** Being hidden or protected, as by darkness.

**ETYMOLOGY:** Middle English *coveren*, from Old French *covrir*, from Latin *cooperīre*, to cover completely : *co-*, intensive pref.; see *co-* + *operīre*, to cover; see *wer-*<sup>4</sup> in Appendix I.

**OTHER FORMS:** **cov'er·a·ble** —ADJECTIVE  
**cov'er·er** —NOUN  
**cov'er·less** —ADJECTIVE

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[CONTENTS](#) · [INDEX](#) · [ILLUSTRATIONS](#) · [BIBLIOGRAPHIC RECORD](#)

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